

MEMORANDUM

To: Board of Regents

From: Board Office

Subject: Annual Report on Economic Development and Technology Transfer

Date: November 5, 2001

**Recommended
Actions:**

1. Receive the reports on economic development and technology transfer from the University of Iowa, Iowa State University, and the University of Northern Iowa.
2. Encourage the universities to place even more emphasis upon economic development activities in future reports.

**Executive
Summary:**

The Regent universities are required by law to prepare annual comprehensive reports regarding their technology transfer and economic development activities. The reports, included as Attachments I, II, and III, describe the specific goals, objectives, and actions, which the three universities completed in 2000-2001.

The universities report advances in many activities associated with economic development and technology transfer and short-term declines in a few other areas. The five-year trend in all areas shows a decided upward movement. The performance of the research parks and incubators at SUI and ISU remains robust. The universities reported a total of 791 corporate-sponsored research contracts in FY 2001, compared to 967 in FY 2000, 1,086 in FY 1999 and 976 in FY 1998. The dollar amount of these corporate-sponsored research projects totaled \$43.4 in FY 2001, compared with \$49.7 million in FY 2000, \$62.4 million in FY 1999, and \$44.7 million in FY 1998. In FY 2001, the universities reported 182 disclosures of intellectual properties, compared with 198 disclosures in FY 2000, and 244 in FY 1999. The number of patents filed in FY 2001 was 134, compared to 143, and 175 the two preceding years. The number of patents issued in FY 2001 was 78, compared with 83 in FY 2000 and 76 in FY 1999.

Because each university's mission in the areas of economic development and technology transfer arise from unique strengths and resources, the largest portion of this report will offer separately, the following components for each university:

- Summary of FY 2001 accomplishments
- Economic development/statewide corporate partnerships (examples)
- Technology transfer activities (examples)
- Surveys of clients' economic needs and technology-related services provided
- Research Parks/Regional Business Center data
- Collaborations
- Point-of-contact office to promote accessibility.

Following the section of highlights and analysis for each institution, the memorandum concludes with multi-year data on performance indicators related to economic development and technology transfer.

Strategic Plan:

Each report provides examples of the university's implementation of its strategic plan, consistent with the Board of Regents' strategic plan. For example, Action Step 1.1.4.1 ("each university enhances its research efforts consistent with its mission") and Action Step 1.1.4.2 ("each university increases sponsored research consistent with its mission") reflect the commitment to partnerships with business and industry. Some of the projects described in the three reports carry out Action Step 1.1.4.3 ("each institution increases service to Iowans, nation, and world"). The reports reflect collaborative efforts with a range of public and private sector groups consistent with Action Step 2.2.1.2 ("explore collaboration with business, industry, Workforce Development, and other agencies and organizations and prepare a report with recommendations").

The three universities have new strategic plans and the economic development and technology reports reflect the links to both the university plans and the Board's plan.

**University
of Iowa**

The University of Iowa's mission statement calls for the University to use research and other services to benefit the people of Iowa, the nation, and the world. Economic development and technology transfer is inextricably linked to the new strategic plan, *New Century Iowa: Bridges to the Next Horizons, 2000-2005*, in the following goal:

Goal 3: To foster distinguished research, scholarship and artistic creation. Two ways in which that can occur are:

- Accelerate enhancements to infrastructures supporting research, scholarship, and creative activities in selected areas of strength and promote opportunities for increasing external funding in all areas;
- Promote the role of the University in technology transfer and economic development.

**Iowa State
University**

Iowa State University's new strategic plan emphasizes three highly critical missions for a land-grant institution: discovery, the research and scholarship generated by students and faculty; learning; and engagement, the interactions between the University and the communities and citizens of the State. This report presents the successes resulting from the intersections between discovery and engagement: the translation of the research developments at the University to applications that benefit the economic development and well being of Iowans. The major achievements in research funding and technology transfer are highlighted with a number of specific examples.

Background:

Iowa law requires annual reports of the three universities on technology transfer and economic development to be submitted to the executive and legislative branches of state government. The law is consistent with the Board's responsibility to be fiscally accountable for state funds received by the Regent institutions.

Each university report is included as an attachment to this memorandum. They are found on the following pages:

- University of Iowa Attachment I pages 19-61
- Iowa State University Attachment II pages 62-97
- University of Northern Iowa Attachment III pages 98-129.

For the past four years, the universities have been asked to provide data on the corporate-sponsored or business-derived research funds, as well as the number of agreements that the funds represent. As noted elsewhere, these dollars are a relatively small percentage of the total research dollars received. The data reflect the general economy – more funding occurs in times of financial prosperity than in times of economic downturn. The data also reflect the distinct missions of the universities – SUI and ISU are research institutions and UNI is a comprehensive university serving communities through applied scholarship.

**Regent University Corporate-Sponsored Research
Number of Agreements/Dollar Value [in Millions]
FY 1998 to FY 2001**

	FY 1998	FY 1999	FY 2000	FY 2001
University of Iowa	\$28.7 (349)	\$39.6 (371)	\$33.1 (365)	\$26.8 (301)
Iowa State University	\$15.9 (623)	\$22.7 (712)	\$15.2 (536)	\$14.9 (429)
University of Northern Iowa	\$0.7 (27)	\$0.1 (31)	\$1.4 (46)	\$1.7 (55)
Totals	\$45.3 (999)	\$62.4 (1,114)	\$49.7 (964)	\$43.4 (791)

One measure of successful economic development and technology transfer activities is an outcome, such as an invention, a patent, or a license. The institutional reports describe many such outcomes, including the number of U.S. patents filed and issued. The following table shows only the number of patents issued, one example of their robust endeavors to increase economic development in Iowa.

**Regent University
Number of Patents Issued
FY 1998 to FY 2001**

	FY 97	FY 98	FY 99	FY 00	FY 01
SUI	15	21	33	37	43
ISU	38	54	48	41	33
UNI	0	3	12	5	2
Totals	53	78	93	83	78

Analysis:

Summary of FY 2001 Accomplishments.

University of Iowa

This year's summary covers activities of four units reporting to the Office of the Vice President for Research (UI Research Foundation, Technology Innovation Center, Oakdale Research Park, Research Marketing and Corporate Relations). This summary supplements the annual report by the SUI president on the University's Strategic Plan that cites institutional accomplishments. The University of Iowa was successful in FY 2001, extending or maintaining its various economic development and technology transfer activities, despite the nation's economic slowdown and the budget restraints of the University.

- Corporate-sponsored research totaled \$26.8 million, representing 9.6% of the \$277.9 million in external support.
- 307 corporate research agreements were successfully negotiated.
- 65 new invention disclosures.
- 73 U.S. patent applications were filed.
- A record high 43 patents were issued.
- 31 license and option agreements were executed, another record high. These agreements earned \$4.5 million in royalty/license fee income.
- The Technology Innovation Center (TIC) accepted four new tenant firms. One tenant company successfully graduated; 15 tenants now occupy 100% of available laboratory space and the vast majority of available office space.
- Nine research and development companies had a presence on the Oakdale Research Park (ORP).

Economic Development/Statewide Corporate Partnerships.

- The Office of Research Marketing and Corporate Relations (RMCR) undertook 36 on-site visits to companies and hosted 12 on-campus visits to match business needs with SUI capabilities.
- RMCR organized a one-day campus visit for ALCOA (Davenport) executives, Davenport School District administrators and science teachers, program managers from SECME (a non-profit corporation in Atlanta), to showcase programs, resources, and faculty in SUI's College of Engineering and College of Education.

This partnership's purpose is to better prepare under-represented minority students in math and science for post-secondary studies and eventually careers in science, engineering, and technology.

- At the request of the Iowa Department of Economic Development and the Governor's office, RMCR organized a campus visit for two venture capital groups and a corporate executive from a French biotechnology company.

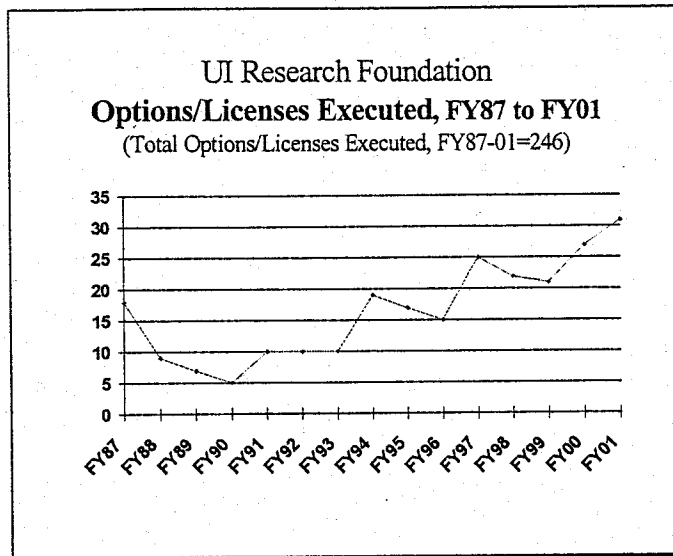
The activities of the RMCR serve as one indicator of SUI's extensive economic development activities. They include:

Type of Activity	No. of SUI Participants	No. of External Participants	Total No. of Visits in FY 2001
On-site corporate visits (in Iowa)	1 --(new SUI Career Services Director)	68	36
Campus visits hosted by RMCR	80	52	12
Campus visits RMCR helped organize	na	na	6
External campus Visits by RMCR	na	na	20

Technology Transfer.

- The CMV Promoter for Increased Protein Expression is becoming a widely used tool in the biotechnology industry. Already it is being used in the production of several protein-based therapeutics and in the future may be used in gene therapy and DNA vaccine products. By the end of FY 2001, ISUIRF negotiated non-exclusive licenses for use of the CMV Promoter with 57 industrial partners, up from 45 licenses at the end of FY 2000.
- During the course of FY 2001 a number of products based on patents awarded to the UIRF moved closer to the market. Among these significant patents are those licensed to Coley Pharmaceuticals Group. Coley has entered the field of pre-clinical or clinical development of treatments for cancer, asthma/allergy, and infectious diseases.
- UIRF executed a license agreement with Targeted Genetics Corporation for use of certain gene therapy platform technologies.

One way to measure the activities of the University of Iowa in the area of technology transfer is to examine the number of options/license executed from FY 87 to FY 01. The figure below illustrates a total of 246 options/licenses have been executed during those years.



Surveys and Technology-Related Services.

- The TIC incubator, in collaboration with other groups including the Oakdale Research Park, Research Foundation, the RMCR, and the Vice President for Research Office, has created a new website: (<http://www.vpr.uiowa.edu/techtransfer/>).
- RMCR arranged publication of an SUI profile in *Start-up/In Vivo* magazine in March 2001.
- RMCR participated in outreach presentations with ISU and UNI, including one to the Iowa Department of Development Board and one at the Annual meeting of the Professional Developers of Iowa.

TIC staff met with representatives of venture firms, angel investors, and financial institutions and, in selected cases, helped arrange introductions and presentations involving TIC affiliates.

Research Park.

- The Iowa Department of Economic Development (IDED) approved a \$500,000 Advanced Research Commercialization (ARAC) award to the Oakdale Research Park in FY 2001. The funds will be used to construct and equip much-needed wet lab space for biotech start-up companies.
- SUI biotech spin-off company and TIC graduate Integrated DNA Technologies, Inc., further expanded. The firm completed a \$1.6 million expansion of its research and production facility in Coralville to 45,000 square-feet and 280 employees.
- Breakthrough to Literacy, Inc., another SUI spin-off company and TIC graduate, continued its growth. It now has 65 employees at

its Oakdale Research Park (ORP) headquarters and 82 other staff in 39 states. Its interactive literacy programs are used in more than 5,000 classrooms, with more than 90,000 students.

- The Biocatalysis Division of Albany Molecular Research, Inc. (AMRI) completed a new \$3.5 million, 10,000 square-foot biotechnology laboratory facility in the ORP.
- A local development group, TMD, LLC, began construction of the Corridor Technology Center. The Center, costing \$4 million, will include three buildings. NCS Pearson, a provider of applications, services, and technologies for educational testing, assessment, and complex data management, will be the anchor tenant in mid-FY 2002.
- Aurora Biosciences Corporation acquired TIC tenant, Quorum Sciences, Inc. Now known as the Microbiology Department of Aurora Biosciences, the unit was enabled to expand its business and research prospects while remaining in Iowa.
- SUI faculty, staff, undergraduates or graduate students founded the four new tenant companies in FY 2001 at TIC. One tenant that "graduated" from TIC to the Oakdale Research Park also was founded by an SUI faculty member.
- In FY 2001 artificial intelligence software developer Stockpoint, Inc., became the largest company on the Park with 117 employees.
- At the end of FY 2001, a total of 34 companies were at ORP, were tenants of the TIC business incubator, or were TIC graduates. These companies reported 942 employees, a gain of 193 (26%) from FY 2000.

Collaborations.

- The RMCR office joined with the Oakdale Research Park to co-sponsor participation in the annual Biotechnology Industry Organization (BIO) Conference in Seattle. Some involved in the collaboration included the Iowa Department of Economic Development, Iowa State University, the University of Northern Iowa, and the Iowa Biotechnology Association.
- Jointly with the Virtual Reality Applications Center at ISU, the National Advanced Driving Simulator (NADS) is pursuing networking research for vehicle and equipment distributed product design. Deere & Company will provide agricultural equipment for design test cases.
- SUI's Center for Biocatalysis and Bioprocessing, responding to a request from the U. S. Army, developed protocols and pilot scale testing to remediate environmentally sensitive conditions at munitions productions facilities.

Point of Contact.

The office to contact at SUI is the Research Marketing and Corporate Relations Office. The person to speak to is Usha Balakrishnan, RMCR Director. The easy on-step e-mail address is (RMCR@uiowa.edu).

Iowa State
University

Summary of FY 2001 Accomplishments.

- An all-time high in sponsored funding, \$217.7 million from both federal and non-federal sources.
- \$14.9 million was received from businesses and commodity groups for research; \$10.7 million for non-research activities.
- 115 new invention disclosures.
- 33 new patents issued.
- 33 technologies licensed for the first time.
- 1 new R&D 100 Award, bringing total by ISU since 1984 to 23, second among all universities.

Economic Development.

- 216 new licenses and options for ISU technology, including 185 for plant germplasm.
- Technologies licensed to Iowa companies (not including plant germplasm) resulted in over \$12 million of sales in 2000.
- ISU received \$500,000 from the Iowa Department of Economic Development (IDED) for a three-year initiative called the Technology Commercialization Acceleration Program.
- The Iowa Companies Assistance Program (ICAP) had over 100 projects with Iowa companies. In one case, ICAP helped a manufacturer of combine parts fix a quality problem, which resulted in \$750,000 revenue from a satisfied customer.
- The Iowa Manufacturing Extension Partnership (IMEP) helped Iowa businesses and manufacturers create and retain over 200 jobs. IMEP's efforts led to sales being increased by \$11 million, cost savings totaling \$1 million, and additional investments exceeding \$4 million.
- The Iowa Demonstration Laboratory (IDL) completed 53 projects with Iowa companies using nondestructive methods to evaluate materials.
- Iowa State University Research Foundation (ISURF) completed license agreements with three Iowa-based startup companies.
- The ISU Pappajohn Center for Entrepreneurship and the Small Business Development Center (SBDC) provided 4,500 hours of business counseling to technology-based companies; they are currently working with about 40 companies.

- IPRT and the College of Business collaborated with the Iowa Economic Development Technology Initiative in preparing two proposals – the National Science Foundation's Partnerships for Innovation and the United States Department of Agriculture's Fund for Rural America.

Technology Transfer.

- In the last survey conducted by the Association of University Technology Managers, ISU ranked 16th in the number of patents earned, 14th in invention disclosures received, 4th in licenses and options yielding income, and 2nd in licenses and options executed.
- The Biotechnology Industrial Liaison reviewed or negotiated more than 100 contracts with industries around the world. This was done in collaboration with the Office of Sponsored Programs Administration and the Iowa State University Research Foundation. These contracts fostered an exchange of information and support for research for more than 50 faculty and staff members in six colleges at the University.
- One research project investigated cis-linked aptamer micro-analytical probes (CLAMPS). These probes have revolutionized the pharmaceutical industry's approach to drug discovery. Instead of making one compound at a time, the combinatorial approach generates a mixture of hundreds or thousands of compounds from which a compound with the desired characteristic can be selected.
- The Center for Nondestructive Evaluation (CNDE) continued its research programs, which are supported by 22 companies and government agencies.
- Technology transfer results included refining a process that makes it commercially viable to recover neodymium from stockpiled magnetic scrap, developing a unique biosensor that helps detect cancer risk, partnering with Vanderbilt University to develop a noninvasive method for detecting defects in an artificial heart valve, and working with a major Midwest food company to evaluate the effectiveness of plant sterol – supplemented lean ground beef to lower serum cholesterol levels in young men.
- ISU researchers have developed a system for establishing buffer strips of trees, shrubs, and native grasses that could be used to reduce rainfall and sediment runoff. Iowa has an estimated one million acres of Iowa farmland bordering streams and rivers. The buffer strips reduced rainfall runoff 92% and the sediment runoff 93% compared with unbuffered areas. Nitrogen and phosphorus loss was cut by more than 90% as surface water passed through the vegetation buffer.
- Iowa leads the nation in egg production, with approximately 31 million laying hens. ISU researchers are working on a new cooling technique to reduce heat-stress in hen housing units, which has the potential to save millions of dollars for producers.

Surveys and Technology-based Services.

- The College of Design developed a web-based solution for reporting vehicle and ridership data to the Heart of Iowa Regional Transit Agency.
- An ISU faculty member conducted comparative analysis of what works and does not work in highway safety campaigns for the Iowa Department of Transportation. The same faculty member also consulted with officials for the Partnership for a Drug-Free Iowa program, assessing the impact on the Iowa public service announcements related to drug prevention among youth in Des Moines.
- A political scientist professor conducted a comparative study of finances in Iowa communities for the City Finance Division of the Iowa Department of Management.

Research Park.

- 7 new companies began operations in FY 2001, bringing total to 116 companies that have been located in or been affiliates of the Research Park.
- Employment data: 50 companies are still associated with the Park, employing nearly 800 people; 29 have expanded or relocated elsewhere; 12 have been folded into other organizations; 25 failed.
- Research Park: over 260,000 square feet; 41 acres of Phase I are sold and occupied; six acres of Phase II are already assigned; 2 new projects for Fall 2001 will occupy another 9 acres.
- 14 former Research Park tenants and affiliates are still doing business in Iowa.
- Total number of Research Park-impacted employees: 1,400 within Iowa; over 1,600 worldwide.

Collaborations.

- The Center for Advanced Technology Development (CATD), through the Iowa Industrial Incentive Program (IIP), links Iowa manufacturers with the resources of ISU and the University of Iowa, to enhance the economic competitiveness of Iowa industry. In FY 2001, CATD implemented 34 cost-shared contracts leveraging the State's \$329,500 investment in the Iowa IIP program with companies' investments of \$691,000.
- ISU partnered with Iowa Department of Economic Development, the Ames Economic Development Commission, and/or the Greater Des Moines Partnership on five specific economic development initiatives in which companies were being recruited to Iowa. The Mid American Energy Group also was involved in one of the initiatives.

- The Community Outreach Partnership Center (COPC) is a joint endeavor of the Department of Community and Regional Planning, ISU Extension, the City of Des Moines, and the Des Moines Enterprise Community (EC). With funding from ISU and the federal government, COPC, in part, is identifying existing and potential transportation problems related to increased economic development in the EC.
- Six new research collaborations were formed this past year between scientists at ISU and SUI that have potential for intellectual property.
- Scientists at ISU and the University of Iowa, especially in the medical school, are broadening the scope of bioinformatics research that includes human genomics problems.

Point of Contact.

A system was established in March 2001, with the Office of the Vice Provost for Research serving as the point of contact. The University's homepage has a link for business/industry referring to the point of contact. Approximately 15 inquiries a week are received.

University of
Northern Iowa

Summary of FY 2001 Accomplishments.

UNI takes an integrated approach to meeting the needs of businesses, entrepreneurs and communities throughout Iowa and beyond, placing an emphasis on applying the technologies developed to meeting identified needs. The past year has been one of measurable success:

- \$9,051,000 in federal, state, business-derived, and private support dollars; an increase of 65% over last year.
- More than 3,200 business and 430 community clients served, involving 32,000 employees and community leaders.
- UNI provided business and community assistance programs in all 99 counties.
- 200 business training workshops were offered.
- Two new patents were issued.
- 52 faculty and 1,250 students were actively involved in business and community outreach services.
- The UNI Research Foundation has given exclusive license to ABIL-developed lubricants technology to a spin-off for-profit company (ELM) to produce and market soybean-based greases and lubricants.

Economic Development.

- The Institute for Decision Making (IDM) has provided hands-on technical services to 426 community clients, who have reported the creation of 2,400 jobs.
- IDM received an \$80,000 contract from the Iowa Department of Economic Development (IDED), to develop Iowa's statewide electronic database for participation in the International Economic Development Council's national site selection database standards project.
- The John Pappajohn Entrepreneurial Center (JPEC) provided services to 42 businesses and seed capital support to six new businesses.
- The Small Business Development Center (SBDC) provided technical assistance to more than 800 small businesses. It was the second busiest center in the state last year, providing 407 clients with workshops and training programs, and over 400 small businesses with one-on-one business technical assistance.
- The United States Environmental Protection Agency (EPA) verified the Laser Touch™ targeting device for spray-painting guns and UNI helped start a manufacturing entity to produce it. This technique was developed at the Iowa Waste Reduction Center (IWRC).
- The JPEC funded and supported eight students starting new businesses.
- The IDM had 35 new clients in FY 2001, the largest increase in clients since 1991. A number of these clients are communities below 10,000 populations who are doing strategic planning to improve their local economies.
- The Recycling, Reuse, Technology Transfer Center (RRTTC) provides assistance to Iowa companies and communities regarding the development of economical approaches to solving intractable solid waste problems.

Technology Transfer.

- The Ag-Based Industrial Lubricants (ABIL) Research Program received a \$750,000 award from the United States Department of Agriculture to implement an on-the-farm, soy-grease manufacturing pilot project. To date, ABIL has developed and licensed to market 11 industrial soy products.
- The Metal Casting Center (MCC) has active contracts with 11 foundry supplies, and has provided research, training, and services to 32 Iowa foundries.

Surveys and Technology-related Services.

- Strategic Marketing Services (SMS) assisted 26 companies with

48 projects in marketplace intelligence and analysis. SMS expanded its market research to include six European countries in 2001.

- The JPEC provided market research and analysis to approximately 20 clients, which were used to develop business plans and feasibility studies.
- The UNI SBDC provided workshops on market research training for 276 participants in 7 counties; many were women who owned small businesses.
- To assist Iowa communities to better understand the needs of new Iowans, a UNI faculty member wrote, and the University published *Welcoming New Iowans: A Guide for Citizens and Communities*.
- UNI has developed a New Iowans Homepage (www.bes.uni.edu/idm/newiowans) that provides resources for citizens and communities.
- The JPEC made its website (www.jpec.org) bi-lingual to assist Hispanic populations with small business guidance. It has also prepared literature in Spanish to assist Hispanic entrepreneurs.

Regional Business Center.

- The new Regional Business Center (RBC) opened in downtown Waterloo in March 2001. The Center features a business incubator, a 14-station computer lab, virtual conferencing/training facilities, seven incubator suites, and a "one-stop" approach to small business assistance in Eastern Iowa.
- The RBC will serve nearly 1,000 small business clients annually by providing technical assistance, computer and technology training programs, e-business assistance, and incubator services.
- Five new businesses have started or have committed to space in the new incubator.
- Iowa's first Small Business Association - Business Information Center (BIC) opened in the Center, offering databases and technical publications for small businesses. More than 50 small business owners were served last year.
- The Iowa Waste Reduction Center (IWRC) provides free and confidential pollution prevention assistance in all 99 counties in Iowa. In the past decade, the IWRC has assisted 2,100 small businesses by assessing environmental compliance and outlining options for waste reduction.
- ABIL supports the West Central Cooperative of Ralston, IA, a non-exclusive license holder of three ABIL-developed soy products. With Waverly Light and Power, ABIL is pursuing commercialization of a dielectric transformer coolant. ABIL has established working partnerships with several railroads and a railroad supplier to field test an emerging rail-flange lubricant.

Collaborations.

- In December 2000, Governor Thomas Vilsack announced the selection of three Iowa communities to serve as pilot communities for the "New Iowans" project: Marshalltown, Mason City, and Fort Dodge. The IDM at UNI assisted the three communities to conduct preliminary community assessments, and are helping the communities develop strategic plans to address immigration issues proactively.
- The Metal Casting Center (MCC) maintained its active partnership with the Iowa Manufacturing Extension Program, ISU's Center for Industrial Research and Service (CIRAS), American Foundry Society, the Iowa Department of Natural Resources, four community colleges, two national laboratories, and the Northeast-Midwest Institute in Washington, DC.
- The Metal Casting Center (MCC) will become part of Department of Energy programs to reduce energy usage in a targeted industry. CIRAS is collaborating in this project.
- The Iowa Training Opportunities Program (ITOP) has assisted 45 companies by training more than 500 workers. Follow-up surveys with the employers and trainees indicated that 40% of the employees had received a pay increase, and 88% of the respondents indicated they wanted additional training. To deliver this training, ITOP formed a partnership with 8 community colleges, the Iowa Department of Economic Development, and the office of Iowa Workforce Development.
- ABIL partnered with ISU's Center for Crops Utilization Research to explore potential non-food, ag-based forestry products. The collaborative research program is investigating methods for using vegetable oils and derivatives for wood impregnation, lubrication, and preservation.

Point of Contact.

UNI created a Business and Community Services (BCS) Division last year in response to the Board's request for a one-stop location. BCS and IDM Director, Randy Pilkington, has been selected as the primary point of contact for UNI.

Analysis:

Economic
Development

This memorandum has provided brief descriptions of the many activities the three universities are engaged in relative to economic development. The three Attachments (I, pages 19-61; II, pages 62-97; and III, pages 98-129) contain numerous examples of projects with Iowa companies and communities. The list is impressive, especially considering the constraints of the national and state economies.

Technology
Transfer

The institutional reports contain specific descriptions of projects that reflect the disciplines and fields for which the universities are known. Differences in the number of examples from each institution are an appropriate reflection of institutional size and mission.

Involvement in
Statewide
Associations

The three universities were actively involved beyond their campuses in meeting economic development needs of the state and nation. For example:

- Representatives from all three universities are active in the Iowa Business Council and the Iowa Research Council, which has sponsored studies related to economics.
- The Director of SUI's Research Marketing and Corporate Relations Office (RMCR) was appointed to the Iowa Department of Economic Development Board in 2001. The Assistant Director of RMCR serves on the Advisory Board of the Iowa Rural Development Council.
- The University of Iowa's Office of Research Marketing and Corporate Relations worked with the Iowa Human Resource Recruitment Consortium, established by Governor Vilsack, to increase the number of internships and employment opportunities.
- A senior SUI Career Services officer was appointed to the Iowa Workforce Development Board of Directors.
- The SUI director of the John Pappajohn Entrepreneurial Center was appointed to the Board of Directors of Software and Information Technology Industries of Iowa, an association dedicated to growing the "new economy" industrial field in Iowa.
- An ISU Economics Department faculty member was appointed to the National Research Council's Committee on Biological Threats to Agricultural Plants and Animals.
- An agricultural economics professor at ISU serves on the U.S. Environmental Protection Agency Science Advisory Board, Environmental Economics Advisory Committee. She is also a consultant for a firm contracting with the National Park Service to value national parks.
- UNI faculty and staff hold leadership positions on the Professional Developers of Iowa Board, Iowa Chamber of Commerce Executives, Iowa Department of Economic Development Board, Iowa Industries of the Future, and Iowa Business Council.

Targeted Industry Clusters

The State of Iowa has identified three targeted industry clusters. They are: Life Sciences, Advanced Manufacturing, and Information Solutions.

- Staff from SUI's Center for Biocatalysis and Bioprocessing served on the Life Sciences initiative committee to establish a cGMP protein processing facility for the State of Iowa.
- The director and associate director of the CATD at ISU participated on the Advanced Manufacturing Committee of the Iowa Economic Development Technology Initiative.
- At UNI, the director of ABIL serves on the Life Sciences Committee and the director of the MCC serves of the Advanced Manufacturing Committee.

Public Relations

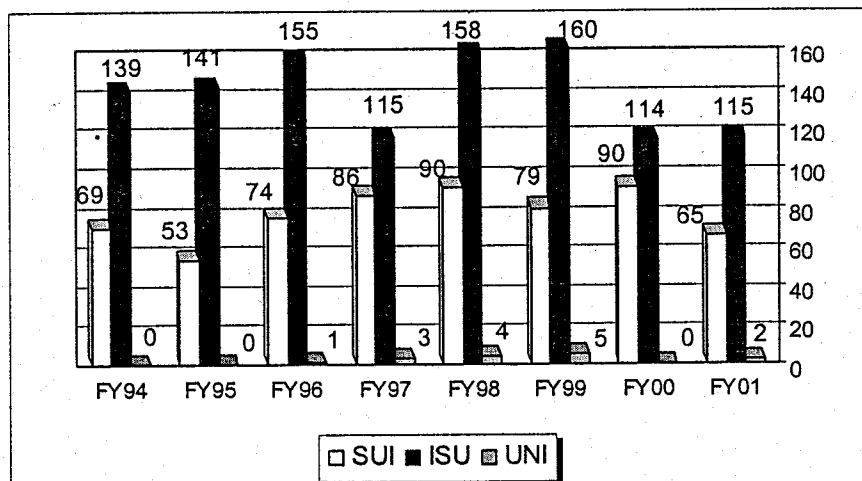
Through newsletters, websites, and presentations at literally hundreds of meetings, the Regent university faculty and staff encourage and nurture economic development activities in the state.

Performance Indicator Charts:

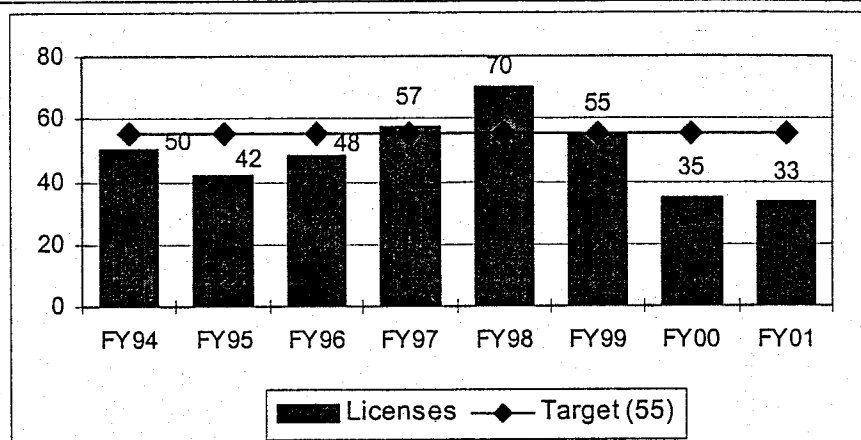
The institutions' economic development and technology transfer activities relate to specific performance indicators established by the Board: They include: the number of intellectual property disclosures (for all three universities); the number of new technologies licensed (Iowa State University); and the number of new licenses generating revenues and total revenues (Iowa State University). In addition, there are several other Board of Regents performance indicators related to sponsored research (#18, #20, and #21) and external funding proposals (#19) that include more than technology transfer initiatives. These are included in the Annual Report on Performance Indicators.

Performance Indicator #22 – Number of Intellectual Property Disclosures

[All three Regent universities]

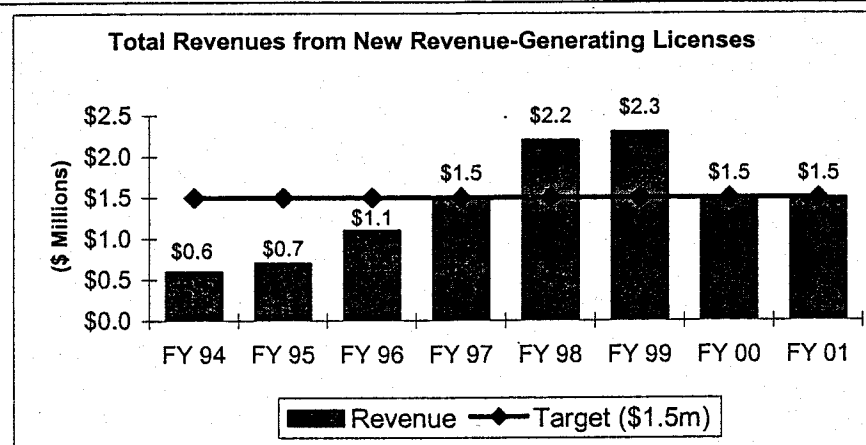
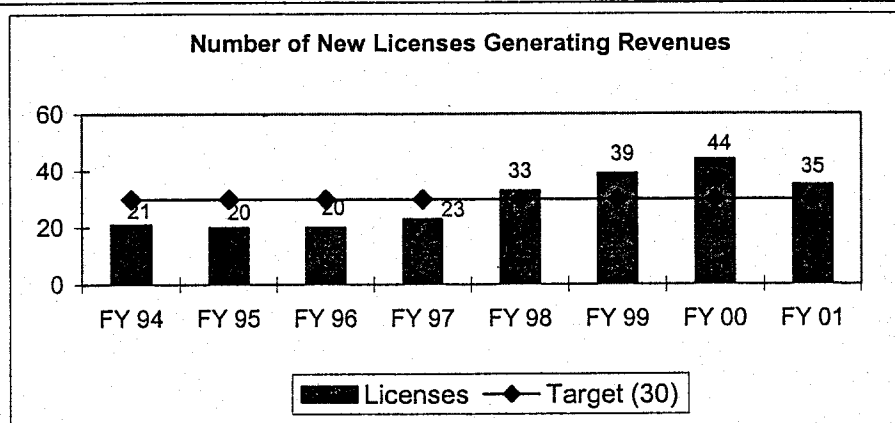


Performance Indicator #23 –
Number of New Technologies
Licensed (ISU)



Performance Indicator #24 –
Number of New Licenses
Generating Revenues and the
Total Revenues (ISU)

[Includes only those
licenses that
generate \$10,000
and greater
income.]



Following Board action, the report will be forwarded to the appropriate persons and offices as mandated in the Iowa Administrative Code.

Charles R. Kniker
Charles R. Kniker

Approved:

Robert J. Barak
Robert J. Barak

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